

JSC employees and high school students build a robot in six short weeks. Photos on Page 3.



Fans at the Houston Livestock Show and Rodeo give a warm welcome to Russian officials. Photo on Page 4.

Space News Roundup

Vol. 36

February 28, 1997

No. 9

Space walkers report view awesome

By Karen Schmidt

The STS-82 astronauts gave high praise to the instrument they worked on and the teamwork that made the mission possible.

Commander Ken Bowersox, Pilot Scott Horowitz and Mission Specialists Mark Lee, Joe Tanner, Greg Harbaugh, Steve Smith and Steve Hawley expressed deep gratitude upon their return to Ellington Field last week to their fellow astronauts and the support teams that gave them the opportunity to work on the Hubble Space Telescope.

"While doing the magnetometers Jeff (Hoffman) asked me which was closer the Earth or the payload bay," Harbaugh said. "It was a magical moment because the Earth was there in all its glory and it was hanging above my head. I almost felt like I could touch it from there. It was an absolutely astounding view, no telescope, just me and our home planet and the universe. It is something I will never forget."

"STS-82 is over, but the mission of Hubble goes on," Hawley said. "Hopefully it will go on for months, years, maybe decades enabled by subsequent servicing missions such as 61 and 82. In those years, Hubble will revolutionize our understanding of the universe and will answer questions that previously we thought were unanswerable. I never thought I would see in my lifetime the possibility to really answer questions such as how old is the universe, how big is the universe are there other planets out

Please see **CREW**, Page 4



Above: Commander Ken Bowersox is welcomed home by his wife Ann, and sons John and Matthew after successfully capturing, repairing and redeploying the Hubble Space Telescope. Right: Mission Specialist Steve Smith holds daughter Shannon during welcome home ceremonies at Ellington Field. The STS-82 crew conducted five space walks to refurbish Hubble and give the orbiting telescope an expanded view of the universe.

JSC Electronic Photos by Mark Sowa



NASA on course, Dailey reports at JSC all-hands

NASA Deputy Administrator Jack Dailey told JSC employees Tuesday that President Clinton's latest budget submission for NASA is clear evidence that the agency is on the right track with its planning efforts.

Further evidence of this is the "how to" video based on NASA's strategic planning, which was presented to the standing room only crowd in Teague Auditorium, has been chosen by the President's Management Council as the management orientation video for all new cabinet-level appointees.

"We have been given a signal now that we're on course, we're doing what the country wants us to do in terms of both the Administration and the Congress and that we are going to be monitored now like everyone else to make sure that we do it," Dailey said. "They believe we have done what we're supposed to do as an agency to retain our relevance to the country, and they are signaling that they're ready to support us."

Dailey and NASA Deputy Administrator for Space Flight Richard Wisniewski were in Houston to "roll out" the agency's new Strategic Management Handbook and explain how the Human Exploration and Development of Space Enterprise,

of which JSC is a key stakeholder, fits into the agency's overall planning.

Much of the work to build the current plan has been driven by significant budget cuts that, over the past several years through a series of top-to-bottom reviews, have shifted NASA's budget from emphasizing operations back to one that is anchored in research and development. The agency has concentrated on planning programs that are relevant to Americans, balanced across the agency and that promote stability in funding, Dailey said.



Dailey

"We now have the plan, we know where we're going and we know how we're going to try to get there," he said. "Our budgets are aligned with it and we need to make sure the plan stays current and describes the right things for us to be doing as an agency."

Much of the responsibility for executing the plan falls on the shoulders of JSC, which has been designated as the lead center for the space shuttle, the International Space Station and space operations, he said.

With that authority, however, comes a significant amount of responsibility, he added.

Please see **JSC**, Page 4

Crew extinguishes fire on Mir; operations back to normal

A problem with an oxygen-generating device on the Russian Mir Space Station Sunday night set off fire alarms and caused minor damage to some hardware on the station but the smoke cleared by late Monday and operations returned to normal.

No injuries to any of the six crew members on board were reported. The fire, located in the Kvant 1 module, began at 10:35 p.m. Sunday, Moscow time, and burned for about 90 seconds. The crew was exposed to heavy smoke for five to seven minutes and donned masks in response. After completing physical exams of everyone on board, U.S. astronaut Jerry Linenger, a physician, reported that all crew members are in good health.

"Jerry talked directly to Moscow and told

them everybody was fine, their lungs were clear and that he felt fine and that the crew was doing well overall," said Frank Culbertson, director of the Phase 1 Shuttle-Mir Program. "Jerry sounded very calm, as he always does, and seemed very well in control of the situation as did the Russians."

Lithium perchlorate candles are burned to generate supplemental oxygen when more than three people are on board the space station. The oxygen-generating candles usually burn for five to 20 minutes. Russian officials believe the problem began when a crack in the oxygen generator's shell allowed the contents of the car-

tridge to leak into the hardware in which it was located. Crew members extinguished the fire with foam from three fire extinguishers, each containing two liters of a water-based liquid.

The damage to some of Mir's hardware resulted from excessive heat rather than from open flame. The heat destroyed the hardware in which the device, known as a "candle," was burning, as well as the panel covering the device. The crew also reported that the outer insulation layers on various cables were melted by the heat. It is reported by Russian flight controllers that all Mir systems continue to operate normally, however.



Columbia's payload bay gets cleaning before move to VAB

By James Hartsfield

Preliminary inspections show *Discovery* is in excellent condition following the addition of more than 4.1 million miles to its odometer on STS-82, and attention is now focusing on *Columbia*, being readied for a 16-day flight on STS-83 in early April.

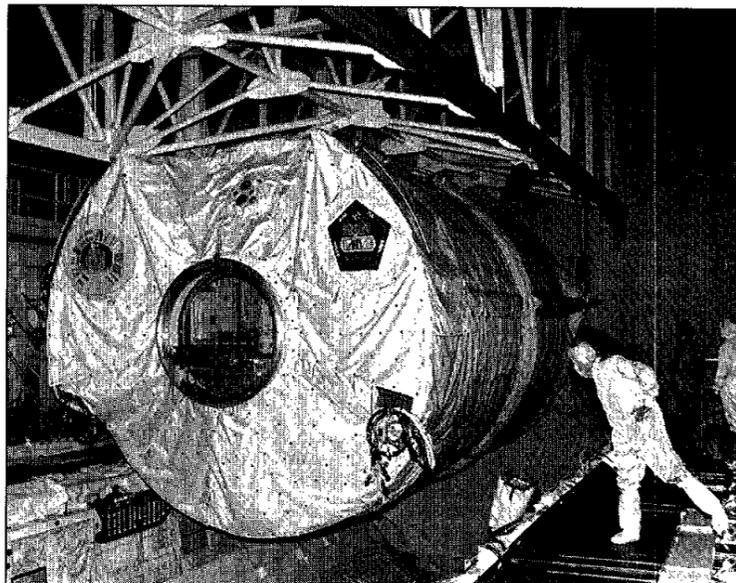
Preparations of *Columbia* are on target for a launch perhaps as early as April 3 on the first Microgravity Science Laboratory mission. This week, the payload bay received a final cleaning and the doors were closed. *Columbia* is to be moved to the Vehicle Assembly Bldg. on Tuesday to be mated with the STS-83 fuel tank and solid rock-

ets. Roll out of the shuttle to Launch Pad 39A is scheduled for about March 10.

The STS-83 crew—Commander Jim Halsell; Pilot Susan Still; Mission Specialists Janice Voss, Don Thomas and Mike Garnhardt; and Payload Specialists Roger Crouch and Greg Linteris—are to travel to KSC for a dress rehearsal countdown with the launch team March 13-14.

Elsewhere, *Atlantis* is in the Bay 3 shuttle processing hangar being readied for a mid-May launch on STS-84, the sixth Mir docking mission. STS-84 will bring home astronaut Jerry Linenger from his stay aboard the

Please see **PREPARATIONS**, Page 4



NASA Photo KSC-97EC-0244

Kennedy Space Center technicians install the Microgravity Science Laboratory into *Columbia*'s payload bay. The MSL will fly for the first time on STS-83 in April.

Smith to take helm at USA

Paul Smith will take over the reigns of United Space Alliance on April 1 when President and Chief Executive Officer Kent Black retires.

Smith, currently president of Boeing North America's Rocketdyne Division, brings 32 years of space-related experience to USA. Most recently he was responsible for directing the space shuttle main engine program, the International Space Station's electrical power system, liquid-fueled booster engines for expendable launch vehicles and directed energy systems.

"We couldn't have chosen a better individual possessing stronger traits to lead the transition of the space shuttle management responsibility from NASA to USA," said Peter Teets, president and chief operating

Please see **SMITH**, Page 4

JSC

Ticket Window

The following discount tickets are available for purchase in the Bldg. 11 Exchange Store from 10 a.m.-2 p.m. Monday-Thursday and 9 a.m.-3 p.m. Friday. For more information, call x35350 or x30990.

Children's Easter Party: 11 a.m. March 22 at the Gilruth Center. Tickets are \$5 children, \$2 adults.

Disney on Ice: "Toy Story" noon April 5 at the Summit. Tickets are \$12 and go on sale March 10.

JSC Picnic: 11 a.m.-8 p.m. April 6 at Astroworld. Tickets are \$15 for the first 3,100 and go on sale March 7.

EAA cruises: Seven-day cruise to Alaska for \$1,294 per person May 23-31. Seven-day cruise to Caribbean leaving from Houston in November; prices vary depending on cabin choices. For more information call Dick McMinimy at x34037.

Astroworld season pass: \$56.75.

Moody Gardens: Tickets are \$9.50 for 2 of 3 events.

Space Center Houston: Adult \$8.95; children (4-11) \$6.40, annual membership \$25.95, family membership (up to four) \$59.95.

Movie discounts: General Cinema, \$4.75; AMC Theater, \$4.50; Sony Loew's Theater, \$4.75.

JSC logo shirts: Polo style, \$23. T-shirt, \$10.

Stamps: Book of 20, \$6.40.

Orbit: The book "Orbit" by Jay Apt, Mike Helfert and Justin Wilkinson is on sale for \$28.

Metro tickets: Passes, books and single tickets available.

JSC

Gilruth Center News

EAA badges: Required for use of the Gilruth Center. Employees, spouses eligible dependents, NASA retirees and spouses may apply for photo identification badges from 7:30 a.m.-9 p.m. Monday-Friday; and 9 a.m.-1 p.m. Saturdays. Cost is \$10. Dependents must be between 16 and 23 years old.

Hatha Yoga: A stress relieving, stretching and breathing exercise routine to unite body, mind and spirit. Classes meet from 5:30-6:30 p.m. Thursdays. Cost is \$40 for eight weeks.

Nutrition intervention program: A six-week program to learn more about the role diet and nutrition play in health, including lectures, private consultations with a dietitian and blood analysis. Program is open to all employees, contractors and spouses. For more information call Tammie Shaw at x32980.

Defensive driving: One-day course is offered once a month. Pre-registration required. Next class is March 22. Cost is \$25.

Stamp club: Meets at 7 p.m. every second and fourth Monday in Rm. 216.

Weight safety: Required courses for employees wishing to use the weight room will be offered from 8-9:30 p.m. March 11 and 25. Pre-registration is required. Cost is \$5. Annual weight room use fee is \$90. Additional family members are \$50.

Exercise: Low-impact class meets from 5:15-6:15 p.m. Mondays and Wednesdays. Cost is \$24 for six weeks.

Aikido: Martial arts class meets from 5:15-6:15 p.m. Tuesday and Wednesday. Cost is \$35 per month. New classes begin the first of each month.

Aerobics: Classes meet from 5:15-6:15 p.m. Tuesdays and Thursdays. Cost is \$32 for eight weeks.

Ballroom dancing: Beginner classes meet from 7-8:15 p.m. Thursdays. Intermediate and advanced classes meet from 8:15-9:30 p.m. Cost is \$60 per couple.

Country and Western dancing: Beginner class meets 7-8:30 p.m. Monday. Advance class meets 8:30-10 p.m. Monday. Cost is \$20 per couple.

Fitness program: Health Related Fitness Program includes a medical screening examination and a 12-week individually prescribed exercise program. For more information call Larry Wier at x30301.

JSC

Swap Shop

Swap Shop ads are accepted from current and retired NASA civil service employees and on-site contractor employees. Each ad must be submitted on a separate full-sized, revised JSC Form 1452. Deadline is 5 p.m. every Friday, two weeks before the desired date of publication. Ads may be run only once. Send ads to Roundup Swap Shop, Code AP2, or deliver them to the deposit box outside Rm. 181 in Bldg. 2. No phone or fax ads accepted.

Property

Rent: Lake Travis cabin, private boat dock, CA/H, fully equipped, accommodates 8, \$550/\$650, wkly \$120 daily. 474-4922.

Rent: Arkansas cottage overlooking lake, furnished, fpl, antiques, views, \$50/day, \$250/wk. Corcoran, x47806 or 538-1681.

Sale: Nacogdoches, 32 acres, \$1.7k/acre. Larry, 470-0215.

Sale: Alvin, cleared land, pasture, barn, fenced, \$49.9k. x30737.

Lease: Pipers Meadow, large immaculate 3-2-2A, FPL, fenced, deck, avail 4-1, \$895/mo. 486-0315.

Sale: 40 prime/clear acres, house, barn, all amenities, 15 mi east of Tyler, \$120k. 488-5058.

Rent: Blackcomb, British Columbia, 2-2 condo, #1 ski resort in NA, W/D, kitchen, heated pool, minutes from ski lift, avail 3-16 to 3-23, 8 days 7 nights, \$200 per night. 998-0659.

Rent: Jamaica Beach West Galveston, beach house, 2nd row on beach, great view, all amenities, sleeps 7, winter rates. 488-6796.

Sale: Taylorcrest, 1-1-1, very clean, balcony, tennis court, \$27k. Mike, 281-333-4760 or 281-486-6034.

Sale: Heritage Park Friendswood, 3-2-2, ex cond, sec sys, ceramic tiles, many upgrades, \$81.9k. 996-0152.

Rent: South Lake Tahoe cabin, sleeps 8, 3-2, wood stove, cable TV, VCR, microwave, modern kitchen, W/D, \$85/night. 244-1065 or 326-2866.

Cars & Trucks

'84 Dodge Prospect Van, sleeps 2, mag wheels, stereo, dual AC, new interior, \$1,950. Rich, x33222 or 538-2870.

'94 Mazda 626 LX, alarm, alloy wheels, 5 spd, 71k mi, \$9k. 480-3058.

'86 Chevy S-10 longbed PU w/camper top, V6, loaded, red w/silver camper, 146k mi., good cond, \$2.4k obo. Gary, x40276 or 281-488-1043.

'84 Corvette, silver w/removable top, auto trans, 77k mi, good cond, \$6.9k. 333-9113.

'85 Audi 4000S, auto, AC, 4 dr, silver w/dk blue int, new tires, AM/FM/cass, 58k mi, ex. cond, \$3.5k. Bobby, x42444 or 488-4382.

'93 Ford Ranger XLT, 5sp, oxford white, AC, AM/FM/cass, rear sliding window, 80 k mi, ex cond, \$5k. x37936 or 409-925-4244.

'89 Plymouth Voyager mini-van, loaded, low miles, \$5k obo; '85 300 Z, AC, 5 spd, t-top, good cond, \$2.2k obo. Randy, x48400 or 532-1364.

'85 Chevy Astro Van, blue, AM/FM, AC, CC, 125k mi, good cond, \$2.5k. x47941 or 281-554-5506.

'95 Eagle Talon Tsi AWD, turbo, blk, 210 hp, alarm, leather, PS/PB, cruise, sunroof, pwr seats, 5 spd, dual airbags, 24k mi, warranty, ex cond, \$18.5k

obo. x31168 or 281-333-8439.

'95 Ford F-150 Supercab XLT, PW/PL, AC, auto, low mi, warranty, ex cond, \$16.9k. 409-925-4041.

'82 Ford F-150 XLT supercab, new camper shell, new eng, low miles, many new parts, ex cond, \$3,495 obo; '93 Nissan Maxima GXE, new brakes, Pirelli tires, leather, royal blue, 50k mi, ex cond, \$12,495 obo. x31144 or 992-8170.

'94 Saturn SC-2, teal w/pin stripping, leather, twin cam, auto, AC, cruise, PW/PL, moon roof, AM/FM/cass, rear defrost, alum wheels, 30k mi, \$11.5k. 281-334-5128.

'86 Mustang GT, blk, 5 spd, new paint and inspection, good cond, 100k mi, \$4,250. 992-5161.

'89 Toyota Cressida, 99k mi, ex cond, \$7k. 486-5132.

'81 Chevrolet Silverado, AC, automatic, good cond, \$3k obo. James, 337-5583.

'89 Olds Cutlass Calais SL, 5 spd, quad 4 eng, \$3k obo. Ken, x34034.

'85 Toyota LE blue van, new eng, low miles, new inspection/registration, good cond, \$3k obo. x45004 or 485-1015.

'89 Ford Mustang LX, blk w/gry int, overhauled, PL/PW, brakes, steering, AC, cruise, auto, 68k mi, \$3.4k. x38853 or 488-5352.

'94 Honda Accord LX, 4 dr, auto, green/tan, alarm, 53k mi, \$12.2k. x32634 or 281-422-8413.

'91 Peugeot 405S, all power, leather, cell phone, new tires, 82k mi, ex cond, \$2.8k. Brandon, 283-4236.

'63 Ford PU, \$500. 992-3187 or 474-7158.

'91 Mercury Sable LS, 3.8L V6, leather, AC conv to R134a, cruise, cass, auto, keyless entry, PW/PL, 94k mi, \$5.5k. Karen, x32688 or John, 368-4252.

'87 Oldsmobile Delta 88, V6, silver, auto, full pwr, minor paint peeling, 78k mi, \$2.7k. 286-4774.

'93 Toyota Celica, red, sunroof, low miles, \$10k. 326-6228.

'93 Plymouth Voyager minivan, 45k mi, 777 warranty, ex cond, \$8,995. 286-8139.

'90 Cadillac Coupe DeVille, vinyl top, PW/PS, 55k mi, good cond, \$10.8k obo. 487-0229.

'92 Nissan Maxima SE, dk gray, leather, CD player, sunroof, PL/PW, cruise, 65k mi, ex cond, \$12.5k. 326-6228.

'94 Chevy Cheyenne, wht, w/lockable tonneau cover, AC, AM/FM/cass, PW/PL, custom rims, new tires, 54k mi, ex cond, \$11.5k. x37703 or 538-1627.

'91 Plymouth Grand Voyager Le, auto, V6, alarm, non-smoker, ex cond, \$6250 nego. Larry, x31794 or 481-9058.

'89 Lincoln Mark VII LSC, loaded, new tires and brakes, garaged, \$6.3k. x32827 or 538-2152.

'89 Ford Ranger XLT, SWB, V6, A/C, auto, cassette, tint, new motor, ex cond, maintenance records, \$3950. Billy, x31339 or 409-741-0083.

'92 Chevy Suburban Silverado, loaded, ex cond, white w/maroon int, 120k mi, \$14.1k. Tom, x40048 or 334-2593.

Boats & Planes

'87 Executive Cruiser Pontoon boat, 115 outboard, stereo, canopy, power trim, trailer, depth finder, \$6.2k. Rich, x33222 or 538-2870.

Boat slip on Clear Lake w/roof/mortized boat hoist for power boats, \$7.5k or \$125 monthly

Today

Cafeteria menu: Special: tuna noodle casserole. Total Health: baked potato. Entrees: steamed salmon steak, baked chicken, fried cod fish, ham steak. Soup: seafood gumbo. Vegetables: French cut green beans, cauliflower with cheese, green peas, black-eyed peas.

Monday

Quality conference: The American Society for Quality Control will host a two-day conference March 3 and 4 at South Shore Resort and Conference Center. The focus of the conference is "Rapid Change-Using Quality as a Strategy for Success." For more information call Larry Shaw at x32173.

Cafeteria menu: Special: breaded outlet. Total Health: crispy baked chicken. Entrees: stir fry pork and rice, baked chicken, smoked sausage with German potato salad, French dip sandwich. Soup: cream of broccoli. Vegetables: okra and tomatoes, peas, navy beans, baby carrots.

Tuesday

ASQC meets: The Bay Area Section of the American Society for Quality Control will meet at 6 p.m. March 4 at Ramada King's Inn on NASA Road 1. Stanley Deming, professor of chemistry at the University of Houston will discuss "Experimental Design for Quality." Dinner cost \$9 and advance reservations are not required. For more information call Ray Swindle at 335-6948.

Reservations Due: The American Institute of Aeronautics and Astronautics will present a technology transfer seminar at 6:45 p.m. March 5 at 2450 NASA Road 1 Rm 32C. Jim Cameron, senior consultant for marketing at NASA's Mid Continent

Technology Transfer Center will discuss "What Technology Commercialization Can Do For You." Reservations are due by March 4. For reservations and information call Charles Halliman at 991-1654.

Cafeteria menu: Special: fried chicken. Total Health: vegetable lasagna. Entrees: Salisbury steak, steamed pollock, vegetable lasagna, French dip sandwich. Soup: split pea and ham. Vegetables: mixed vegetables, French cut green beans, pinto beans, vegetable sticks.

Wednesday

Spaceland Toastmasters meet: The Spaceland Toastmasters will meet at 7 a.m. March 5 at the House of Prayer Lutheran Church. For more information call Jeannette Kirinich at x45752.

Spaceteam Toastmasters meet: The Spaceteam Toastmasters will meet at 11:30 a.m. March 5 at United Space Alliance, 600 Gemini. For details call Pat Blackwell at 282-4302 or Ben Black at 282-4166.

Astronomy seminar: The JSC Astronomy Seminar will be held at noon March 5 in Bldg. 31 Rm. 129. An open discussion meeting is planned. For more information call Al Jackson at x35037.

Reservations due: The Professional Secretaries International will host a Professional Development Workshop from 8 a.m.-1 p.m. March 15 at the Silver Moon Cafe at Space Center Houston. Cost is \$60 for members and \$65 for nonmembers and includes breakfast, lunch and a tour ticket. Registration deadline is March 5. For more information call Elaine Kemp at x30556.

Cafeteria menu: Special: stuffed bell pepper. Total Health: baked potato. Entrees: stir fry chicken & rice, wieners & beans, fried fish, western special, beef, chicken

sausage, Reuben sandwich. Soup: seafood gumbo. Vegetables: buttered rice, Italian green beans, corn O'Brien, peas and carrots.

Thursday

Warning system test: The site-wide Employee Warning System will undergo its monthly audio test at noon March 6. For more information call Bob Gaffney at x34249.

Awards banquet: The National Award for Space Achievement Foundation will host a "Dreams to Destiny" banquet March 6 at Space Center Houston. For details about tickets call Jack Lister at 480-6516.

Cafeteria menu: Special: barbecue smoked link. Total Health: roasted turkey breast. Entrees: turkey and dressing, beef stroganoff, steamed pollock, French dip sandwich. Soup: tomato Florentine. Vegetables: Spanish rice, lima beans, buttered squash, oriental vegetables.

Friday

Cafeteria menu: Special: meat sauce and spaghetti. Total Health: baked potato. Entrees: rainbow trout, liver and onions, beef cannelloni, ham steak, fried cod fish, Reuben sandwich. Soup: seafood gumbo. Vegetables: steamed broccoli, breaded okra, cut corn, black-eyed peas.

March 11

Space Medicine Grand Rounds: Paul Spudis, staff scientist with the Lunar and Planetary Institute, will discuss "Why Go Back to the Moon?" at 8:30 a.m. March 11 at the Shriners Hospital Auditorium, 815 Market Street at the University of Texas Medical Branch in Galveston. To reserve a space in the van leaving from Bldg. 37 at 7:15 a.m. call Carmen Hollins at x30452. For details, call Kay Nute at 244-2019.

lease. 474-4922.

'95 16' Alumcraft, '94 50 hp Mercury, '95 Glav Sportsman, live well, trolling motor, compass, depth finder, extras, \$8.3k. Charlie, 480-4046.

Half ownership in 28' Pearson sailboat, 3 sails, spinnaker, 30 hp, inboard atomic 4 eng, \$5K + \$100/mo maint/slip fee. x47806 or 538-1681.

'93 Crownline 20 family ski-fish seats 8, Mercruiser 305 V8, SST prop, depthfinder, AM/FM/cass, low hours, bimini top, custom cov, Shorelander custom trailer, \$13.9k obo. Don, x38039 or 333-1751.

Outboard engine, 8.0 Hp Evinrude low shaft, \$450. Robert, 334-1677 or 717-8231.

Aluminum prop from 21' Mercruiser I/O 135 hp engine, \$50; tire for boat trailer w/rim, unused, \$50. Robert, x37739.

'97 Citabria 7GCBC (explorer), Lyc. 160 hp, full gyro pkg, NAV/COM, many extras, \$60/hr. x38879 or 281-482-8213 or 332-1991.

Cycles

'84 Honda ATC, 110 cc, needs work, \$200. Luke, 667-3248.

Audiovisual & Computers

75 MHz PB, 16MB/1.6 GB/3.5 fd, 4x CD, 14.4, sound, W95, \$750; 15" HP SVGA, \$200, Brother WP-3400 w/12" mon, \$150. Mike or Jean, x45137 or 873-7449.

Ham radio station, Kenwood TS 450S, Kam all-mode, rotor, 80ft tower, 2kw amp, HF beam. Mike, x37768 or 409-925-2330.

Canon BJC-4000 color printer, bubble jet, \$150 obo. 486-4778.

VHS camcorder, hardshell case, wide angle, telephoto lens, extra battery, charger, \$175. Bill, x47311 or 326-2326.

Pets & Livestock

Free adult cat to adult only home, Manx mix, grey and white. 281-480-8519.

Free to a good home, 1.5 yr old, 3/4 yellow Lab, female. Kim, 333-4747 or 338-2090.

Pair of doves plus cage, free to a good home. 337-7573.

Mini-Rex rabbits, \$10 ea. 482-0874.

Musical Instruments
Ensoniq SD-132 kybd w/sequencer, Ultimate kybd stand, hardshell case, ex cond, \$1k. 480-9173.

Applause acoustic guitar w/case, built-in microphone, \$125. Gary, x40276 or 488-1043.

Marshall 8100 Valvestate 100W head, 2 channels, effects, loop, reverb, channel/reverb footswitch and manual incl, like new, \$350, Angela, 281-332-7009.

Marshall JCM800 Lead 100W head, modified by James Demeter, 2 channels, effects loop, foot switch, \$750; crate cabinet, \$250. Angela, 281-332-7009.

Lost & Found

Lost: Grey neutered male rabbit answers to Miller, approx 4 yr old. Lost in Bay Glen subdivision on 1/25/97. Reward if found. x48133 or 281-480-1266.

Household

25 cu ft Kenmore fridge, \$750; Qn Anne dining

table w/4 chairs, \$475. Mike or Jean, x45137 or 873-7449.

Loveseat, 2 yrs old, gray/creme striped, throw cushion back, \$60. Steve, 480-6415.

Toddler bed, mattress, sheets, \$30. Shelley, x37824 or 409-943-4168.

Kg sz semi-motionless waterbed, mattress, liner, new heater and thermostat, \$200 obo. 334-4836.

Refrigerator, \$150; oak entertainment center, \$450; Jennie Linde changing tbl, baby clothes, 0-2 yr. 479-0276.

Three Early American solid cherry wood swivel bar stools w/high backs, \$120. Jackie, 480-8622.

Lg couch w/cushy pillows, lg ottoman, dark print, ex cond, was \$1.2k new, make offer. Mary, x47708.

Overstuffed mauve couch, 8' long, throw cover, good shape, \$150 obo. 487-3233.

Portable or cabinet mount GE dishwasher, \$175; Quasar 750 watt microwave, \$50. Rob, x35847 or 326-1313.

Refrigerator, 18.6 cu ft, w/ice, almond, \$375; microwave oven, 0.5 cu ft, \$50; 5' portable B&W TV, \$50; radar detector, \$50. Kelley, x36818.

Sofa, \$35; loveseat, \$25 or \$50 for both, med brwn, good cond. x38875 or 538-1887.

23.6 cu ft side-by-side refrig, ex cond, \$595; washer/dryer \$275, blue leather chair, \$275. 486-6009.

Lg L-shaped desk, 3 drwrs, metal w/wood grain top/sides, \$125. 488-0579.

Sofa and loveseat, good cond, \$300 obo. Mike, 486-6034 or 333-4760.

Kenmore washer, white, 1 yr old, \$150. Alan, 868-5883.

Dining table, \$100. 482-0874.

Electric washer, needs work, \$50. 482-0874.

Sleeper sofa and love seat, country blue, good cond, \$400. Randy, x48271 or 488-1672.

Dark blue sofa, 87", \$100 obo. Tom, x40048 or 334-2593.

Super Single water bed, \$100 obo. 488-5416.

Ethan Allen entertainment center, \$575; Bassett living room set w/qn sleeping sofa, \$1.1k; GE refrig, 22.5 cu ft, \$275; Kenmore W/D, \$225/set; oval solid wood table w/ex leaves, 6 chairs, \$900. 996-0152.

Wanted

Want good solid treadmill with electronic speed and incline adjustment, calories burned, time, and distance monitors. Tammy, 280-2667 or 534-2668.

Want ping pong table and accessories in good cond. Keith, x35191 or 996-8318.

Want house mate to

Team "Integral" unveils its new robot that will be entered in the For Inspiration and Recognition for Science and Technology, or FIRST, national competition. Family members and the media attended the unveiling Sunday in Bldg. 9. JSC's Automation, Robotics and Simulation Division and the Manufacturing, Materials and Process Technology Division teamed up with high school students and teachers to build and test the robot in six weeks. → S97-02762



Brain Ease

JSC employees, students complete robot in six weeks



↑ From left, students Pat Eisenbarth and Heather Bartsch along with JSC's Ken Jenks and student Janet Tcheung, work on the "Jaws of Death." The jaws are the robot's hands that will pick up automobile inner tubes during the competition. S97-02622



← From left, JSC Engineer Brad Grebinow and students Kyle Eldridge and Erin Gardner work on defensive weapons that will be used during the national robot competition. Strategies, both defensive and offensive, are a large part of the team's work to prepare for the competition in April. A team of 14 JSC employees helped 37 Clear Creek Independent School District high school students and teachers conceive, design, build and test the robot. This team will be one of 154 competing for more than 16 awards and scholarships during the three-day event to be held at Disney World's Epcot Center in Florida. The robot is scheduled to be shipped to Florida today for inspection by the FIRST judges. S97-02625

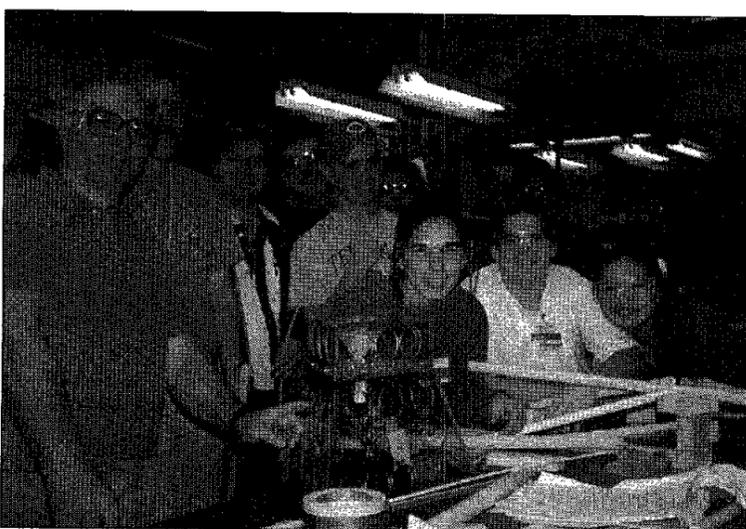


← The robot makes its debut in typical athletic fashion tearing through a banner held by cheerleaders from Clear Creek, Clear Lake and Clear Brook High Schools. The competition is designed with an athletic theme to generate interest in the contest. S97-02761

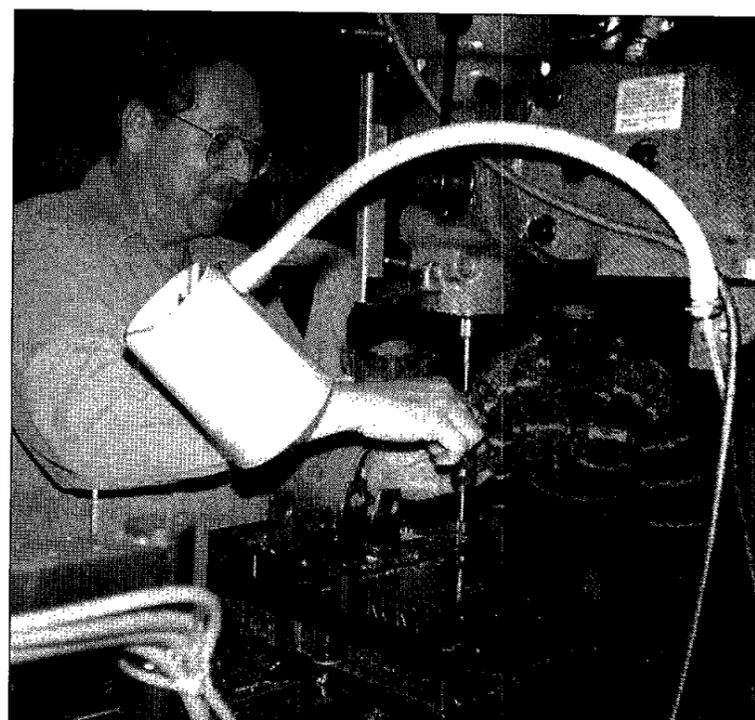


↑ The robot could not have been completed on time if not for the help of the Manufacturing, Material and Process Technology Division's machinists in Bldg. 10. Standing from left are, Greg Gullett, Mike Kettler, Ken Boehn, Rick Pokorski, Marcelo Uriegas, Doug Balko and Roy Bellard, kneeling from left are students Chrissy Sill and Jacob Smith. Not pictured, but important members of the team, are Ross Bentley and Lyle Gurnsey. S97-02648

→ The employees of the plastics and model shop also put in long hours to help make the robot possible. From left are, JSC's Tom Loosmore, Brad Griebenow, John Schipper and Henry Kaupp, students Tim Broths, Vanessa Perez, Erin Gardner and Kyle Eldridge, JSC's Roger Megason and student Andrea Flores.



← The team built the competition arena to practice strategies of winning the national competition with the help of, from left, Clear Lake High School teacher Alice Zoener and JSC employees Todd Yao, Henry Kaupp and Roger Megason. While the most important aspect of the competition is teaching students about math and science, the team admits, it wants to win. S97-02649



← From left, JSC's Larry Huff and students Chris Winton and Brian Ulczyuski drill part of a transporter frame that was used on the robot built by employees and students at the center. Team members agree without the support of the machinists and model employees, the robot could not have been built. S97-02626

JSC managers to discuss agency strategic plans next month

(Continued from Page 1)

"With the control that you have, the money that you have and the activity that you have here, our future is in your hands," Dailey said. "It's how well you do it, how well you work with the other centers that are in support of your activities that are going to be the key to what we look like 10 or 15 years from now. You have all the capability you need to do it. We're going to provide you with all the support we possibly can from the rest of the agency."

Dailey presented a 20-minute video narrated by Walter Cronkite that was selected by the President's Management Council as a tool for educating new Cabinet-level appointees about the government's strategic management process. The principles discussed in the tape also were ratified by the U.S. Comptroller and the head of the Office of Personnel Management.

The video explained that several basic questions need to be answered in the planning process: What is our mission and why? What are our long-term goals and objectives? How should we involve our stakeholders, the people we work for and with, to determine these goals and objectives? How

do we accomplish them? How do we define successful performance?

NASA responded with a plan that starts with a vision and a list of three key missions: "NASA is an investment in America's future. As explorers, pioneers and innovators, we boldly expand frontiers in air and space to inspire and serve America and to benefit the quality of life on Earth."

The key missions are to: "advance and communicate scientific knowledge and understanding; explore, use and enable development of space; and research, develop and transfer aerospace technologies."

Dailey urged all JSC employees to review the new Strategic Management Handbook and to understand how they, as individuals, fit into the agency's plans.

"If we don't understand what it is we're doing and how we're trying to get there, then we're not going to get there. It is important for us to understand the significance of this plan."

Wisniewski said that HEDS is just one of four major enterprises that make up the core of the NASA strategic framework. The others are the Mission to Planet Earth Enterprise, the Space Science Enterprise and the Aeronautics Enterprise.

He explained that both he and JSC Director George Abbey work for Wil Trafton in the Office of Space Flight, and that together they are supposed to worry about JSC's long-term future in terms of investments, assets, human assets, roles and responsibilities. Any employee should be able to look at the Strategic Management Handbook and figure out where their job fits in.

"We have a framework of goals, objectives and strategies," Wisniewski said. "Our goals are derived from the agency missions and goals. Our objectives are generally driven by program planning and formulation, and then we've got strategies that align our activities for our missions and customer needs."

"If you go to the HEDS strategic plan, you can find very easily relevance to individuals here at Johnson Space Center. My proposition to all of you is that, in general, every major technical organization at a center that works for HEDS can map its way back to the agency strategic plan."

The very same strategies should drive all center programs, which again are managed and supported by technical and support organizations so that they may implement the plan.

Of the 30-40 strategies in the HEDS plan,

he said, at least 10 relate directly to JSC employees. How well those employees perform their jobs in support of the plan has a direct bearing on the future for everyone at JSC and NASA, Wisniewski said.

"HEDS represents probably half of the agency's budget and we'd like to keep it that way," he said. "If we do it right, we will keep it that way. We need successful, effective and affordable programs. We're not going to have a new start beyond the space station if we are not successful in the space station and that's why you're all so critical—because the lead center responsibility for the space station and shuttle rests right here among you people."

Abbey has tentatively scheduled two additional all-hands meetings for March and April in which managers will flesh out the effects of the agency's plans on the work here at JSC.

The first will focus on future exploration initiatives—such as the X-38 and life on Mars investigations—and the activities, accomplishments, milestones and challenges they face. The second will be a "State of the Program" look at activities, accomplishments, milestones, and challenges expected in the coming year as they relate to the strategic plan.

Secretaries host workshop

The Professional Secretaries International will host a Professional Development Workshop from 8 a.m.-1 p.m. March 15 at the Silver Moon Cafe at Space Center Houston.

The workshop is presented in observance of Women's History Month and attendees can earn two Certified Professional Secretaries recertification points at the workshop.

At 9 a.m. Jackalyn Rainosek of the Southwest Recovery Place will conduct a workshop. Lunch will feature Lorna Onizuka of the National Space Development Agency of Japan. She will discuss, "Dancing Backwards," a method of how to commit to further developing personal and professional lives.

Members of PSI may attend the workshop for \$60 and nonmembers for \$65. Deadline for registration is March 5. For more information call Elaine Kemp at x30556.

Employees may view solar eclipse

The JSC Astronomical Society will host its 20th tour to observe the total eclipse of the sun on Feb. 26, 1998.

Observation will take place in three locations in the Caribbean, on the islands of Aruba and Curacao and at sea from the Norwegian Cruise Line ship *Windward*.

The eclipse will be the longest for the rest of this century with the sun being eclipsed for three and a half minutes.

The five night air/ground tour to either Aruba or Curacao is priced at \$1,300 and leaves from Miami. The seven night cruise starts and returns to San Juan, Puerto Rico and is priced at \$1,200. Prices for both trips do not include airfare from Houston but coordinators are working on a special pricing at this time. For details call George Weller at 480-1988 or Paul Maley at x40208.

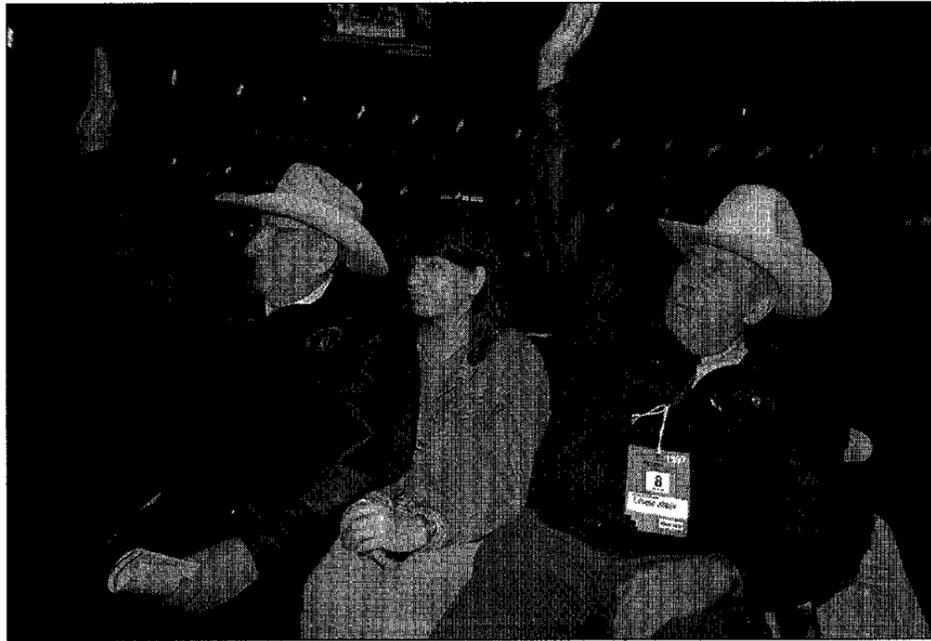
Preparations under way for STS-84 in May

(Continued from Page 1)

Russian station and drop off astronaut Mike Foale to begin the fifth U.S. stay on Mir.

This week, the left orbital maneuvering system pod was installed on *Atlantis*, and, in the VAB, stacking of the STS-84 solid rockets is under way. The main engines are scheduled to be installed in *Atlantis* next week.

Discovery is now in the Bay 2 processing facility, and the payload bay doors were opened Thursday. Technicians will begin removing the STS-82 cargo from the bay next week, and removal of the main engines is planned to begin March 24.



JSC Photo S97-02650 by Benny Benavides

RODEO WELCOME—From left, Russian Space Agency Academician Vladimir Utkin, a TechTrans International interpreter and JSC Director George Abbey receive a welcome from the Houston Livestock Show and Rodeo crowd during the Grand Entry parade last week at the Astrodome. The Grand Entry parade is conducted every night before the rodeo and features dignitaries from around the world.

Crew 'absolutely astounded' by team work on telescope

Bowersox says space walks ground work for station

(Continued from Page 1)

there, how are stars born, how do they mature. When you see those questions being answered, I want everyone that contributed to this mission to feel a part of that understanding."

Bowersox said the mission was a success because the crew worked so well with the team on the ground.

"I was proud to watch my guys work out there in the payload bay," he said. "We have to wait four or eight weeks to find out how successfully the mission was. We did our job, but there are a lot of other things that have to go right for the telescope to do everything it is supposed to do."

"It is important to remember that we were doing something more than servicing the best telescope in the universe. We were learning how to live and work in space. It is the same thing we will be doing on the space station and every time we send people into orbit, we are laying the ground work for the future, for kids like mine and their children to some day go out of Earth orbit and move to places and touch those things that we can only see with instruments like Hubble," Bowersox said.

Lee and Smith said they knew of the hours it took to train, write procedures and build the hardware and they appreciated the time and effort.

"This is the kind of mission an astronaut dreams about because it's a challenging project and you have a lot of team work, patience and persistence," Lee said. "All over the country there are people who took part in this project and made it successful. I am really proud to have been a part of it."

"I want to congratulate everyone who worked on this mission," Smith said. "It takes a huge team of people to work on something like this. We were blessed enough to be your eyes,

ears and hands to work on this national asset. The Hubble Space Telescope really has a magic to it, not only its physical beauty but also in the information that it returns."

Harbaugh was "absolutely astounded" at his crew mates.

"I have never seen the kind of talent, capability, focus and energy that these guys brought to this mission," he said. "The challenge that was continuously presented to us in flight was met not only onboard and during the EVA's but by the folks on the ground. There was nothing we couldn't handle. We had a plan for everything. There is no way to cut short preparations for a mission like this. I think that lesson probably needs to be carried forward to station and the third HST mission."

Tanner and Horowitz reflected on how they will never forget the experience of STS-82.

"Any time you get assigned to a space flight you have expectations," Tanner said. "From start to finish this flight was one of the greatest experiences of my life."

"I think for me that moment came when I appreciated all the hard work everyone did when we had the small problems and I got to play with the tools on the middeck and build a couple of makeshift parts for these guys to go out and install on the telescope," Horowitz said. "It occurred to me at that time, com got really quite for awhile and we were talking among ourselves about whether we should call you. You could almost hear you guys working down here. We know everyone was scrambling and working like crazy."

"Within a period of one EVA you folks had come up with a plan, figured out with the limited resources we had on board, what we could do and how we could fabricate the parts these guys needed to service the telescope the next day. You should all give yourselves a big hand," Horowitz said.

Colleagues praise JSC forecasters

The National Weather Service Spaceflight Meteorology Group at JSC has earned a prestigious American Meteorological Society award for "pushing the limits" of forecasting for space shuttle missions.

The AMS Special Award, presented Feb. 5 at the annual AMS meeting in Long Beach, Calif., honored the SMG for "pushing the limits of mesoscale weather forecasts in support of NASA's Space Shuttle missions for more than 15 years."

Current SMG staff members honored are Wayne Baggett, Dan Bellue, Frank Brody, Tim Gamer, Krissy Grote, Cara Heist, Mark Keehn, Richard Lafosse, Tim Oram, Doris Rotzoll, Steve Sokol and Monica Sowell.

SMG supports the Mission Control Center with precise, site-specific shuttle landing weather forecasts and briefings. Weather support begins pre-launch for abort landing sites, and continues through landing with forecasts for end-of-mission landing decisions. SMG also provides weather training for flight directors, flight controllers and astronauts; serves as meteorological consultants to JSC and the space shuttle program; and provides local weather advisories to JSC facility managers and emergency managers.

Earth Science teams receive recognition

Earth Science Branch Chief Kamlesh Lulla recently presented honors to a number of team members for their work in the Space and Life Sciences Directorate.

"Going Extra Mile (GEM)" Awards were presented to Earth Science Team members Cindy Evans, Joe Caruana, Clyde Sapp and Don Frank.

JSC Certificate of Achievement Awards went to Robert Scharf, Jim Dragg, Teresa Morris and Ranjit Bhaskar.

The entire Image Science and Analysis team earned a Group Achievement Award for its support to space shuttle missions.

In addition, Lockheed Martin Lightning Awards were presented to contractors Brad Rundquist, Cyde Sapp and James Heydorn.

Fun run set for Saturday

The third annual Information Systems Contract Fun Run is set for 7:30 a.m. Saturday at the Gilruth Center.

The "Run for the House" will benefit the Bay Area Habitat for Humanity and features a 5K run walk for adults and a 1K run walk for children. Trophies will be awarded to winners. Food will be donated by Carrabbas.

Entry fee is \$18 for adults and \$10 for children. Individuals interested in participating may call Brenda Sanzone at 480-0257 for registration information.

Smith brings USA management skills

(Continued from Page 1)

officer of Lockheed Martin's information and services sector.

Smith has years of management experience and is well known for his support of continuous process improvement concepts.

Smith becomes the second CEO of the newly formed USA, a joint venture of Lockheed Martin and Rockwell. Black became the first CEO in November 1995 and has been instrumental in forming the new company and finalizing the terms of USA's Space Flight Operations Contract with NASA.